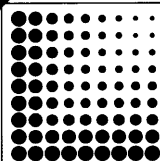


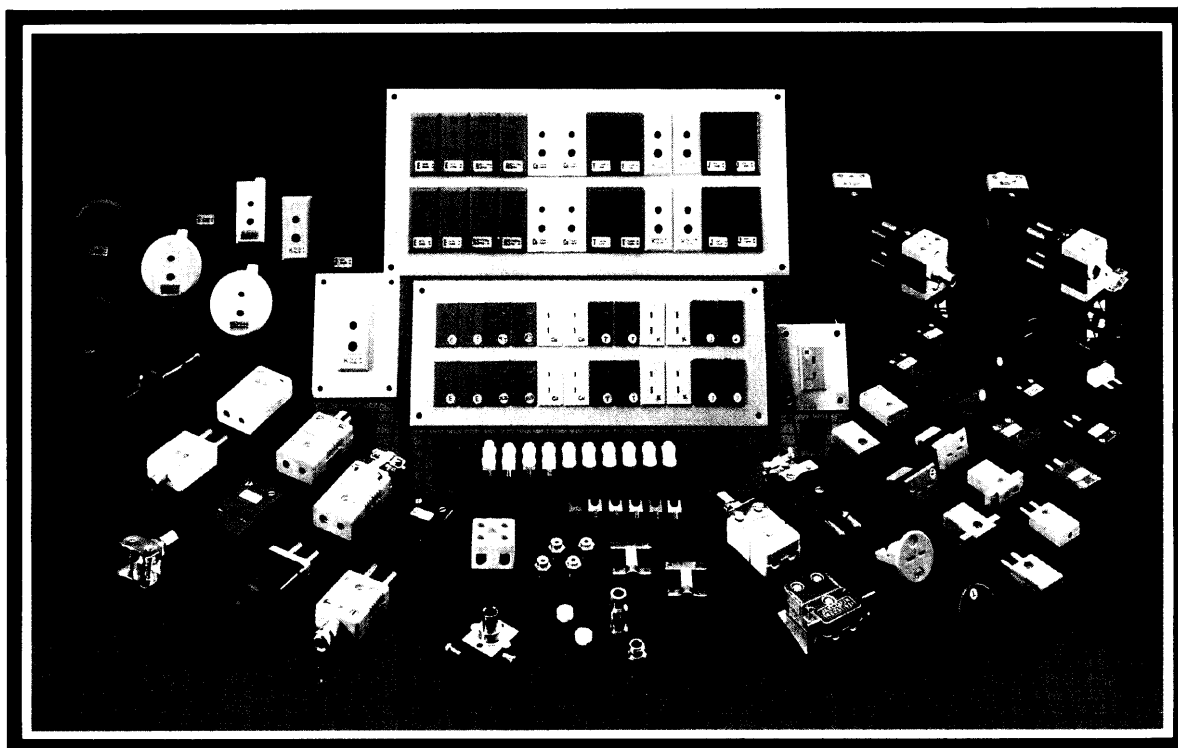
**NOW AVAILABLE
IN IEC COLOURS**



LABFACILITY
TEMPERATURE TECHNOLOGY

**CONNECTORS FOR THERMOCOUPLES
AND RESISTANCE THERMOMETERS**

**TEMPERATURE
SENSING**



**A comprehensive family of miniature and standard connectors,
accessories, panels, terminal and barrier blocks and extension leads**

- Miniature and standard connectors
- Compensated connections ensure high accuracy
- Types J, K, T, E, N, R and S or Copper Copper
- ANSI Colour coding ensures clear identification (IEC available)
- Compatible with all other makes of equivalent connectors
- Polarised connector pins guarantee correct polarity
- Withstand high temperature, 220°C continuous (275°C version available)
- Rugged construction
- British made, our own design and manufacture
- In line or panel mounting connectors, single or multi-way
- Inexpensive
- Available from stock
- Miniature can be rigidly "blanked" for looming
- Suitable for PCB mounting
- Duplex versions available
- Wide range of accessories available
- DIN head terminal blocks
- Barrier terminal strips
- Coiled extension leads
- Moulded handles with integral connections

LABFACILITY LIMITED

Tel: 0181 943 5331 Fax: 0181 943 4351

HEADQUARTERS: LABFACILITY LTD, 99 Waldegrave Road, Teddington, Middlesex TW11 8LR, UK. Tel: 0181 943 5331 Telex: 8952151 Intemp G Fax: 0181 943 4351
NORTHERN DIVISION: LABFACILITY LTD, Unit 7 Abbey Way, North Anston Trading Estate, Dinnington, Sheffield S31 7LJ, UK. Tel: 01909 569446 Fax: 01909 550632

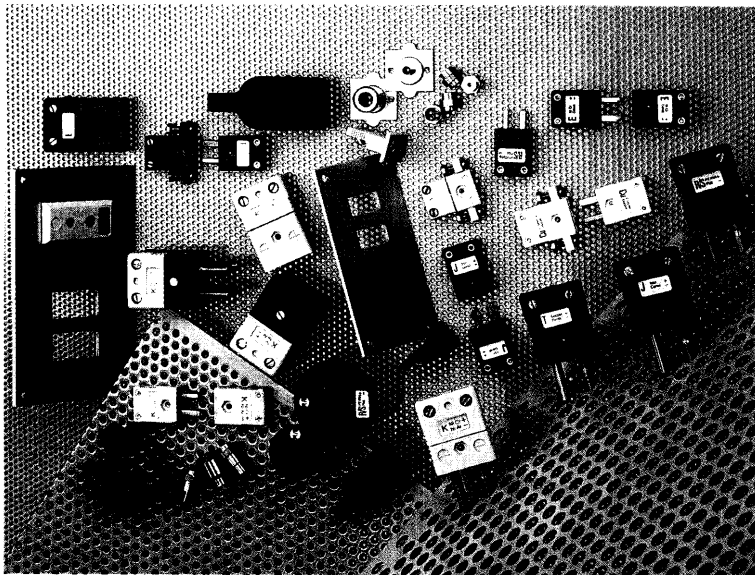
Due to their location in often adverse environments such as hot working zones of furnaces and machinery, temperature sensors are liable to corrosion and mechanical damage. The need for occasional replacement is inevitable and the use of suitable connectors permits error-free fast, positive and reliable interchange with no risk of dangerous cross connection.

These thermocouple plugs and sockets have a technical and practical advantage over other types when terminating thermocouple wires or compensating cable in a wide variety of sizes. The wires are sandwiched between plates of thermocouple compatible material with a clamping screw, accommodating from very fine wires to stranded cables (up to 0.5mm²).

The connectors are colour coded and polarised and will mate with other makes of plugs and sockets. They can be mounted directly on to sheaths of up to 3mm diameter in the case of the miniature version or 1/4" (6.35mm) with the standard version by means of the brass bush available.

The sockets can be supplied as in-line or panel mounting versions with rectangular or circular fascias. The connectors are ruggedly made of glass filled thermoplastic for reliable operation up to 220°C sustained temperature (optional special version available for 275°C).

Two versions of the standard plug are available. The light duty version uses pins filled with thermoplastic. The optional heavy duty version uses pins made from **solid alloys** (or copper).



The use of thermocouple compatible material eliminates measurement error due to the interconnection and the bright ISA colour coded body ensures clear identity of the type of thermocouple in use. Special body colours are available to order.

MODULAR BARRIER TERMINALS and **DIN style terminal blocks** are also moulded in ANSI colour coded polyester material for easy identification; the conductors are made from the appropriate alloys for high accuracy as with the other connectors.

New additions to our range include moulded handles and "coiled" extension leads for a wide range of temperature sensors.

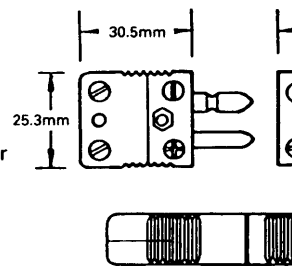
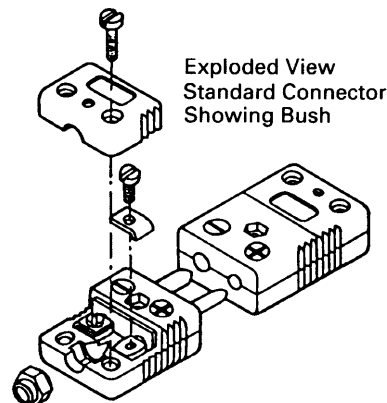
Calibrations and Colour Codes

Description	ISA Code	Positive (small pin)	Negative (large pin)	Body Colour
Iron-Constantan	J	Iron*	Constantan	Black
Fe-Konst (DIN)	J	Iron*	Constantan	Black
Chromel-Alumel	K	Chromel †	Alumel* †	Yellow
Copper-copper (Cu)	-	Copper	Copper	White

* Magnetic † Trade Names

The conductors for types R & S are made from the appropriate compensating materials.

In-line Connectors

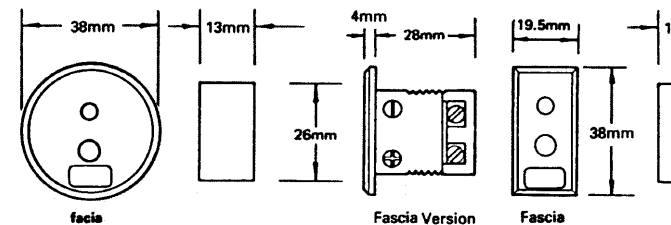


Ordering Codes - Standard Connectors

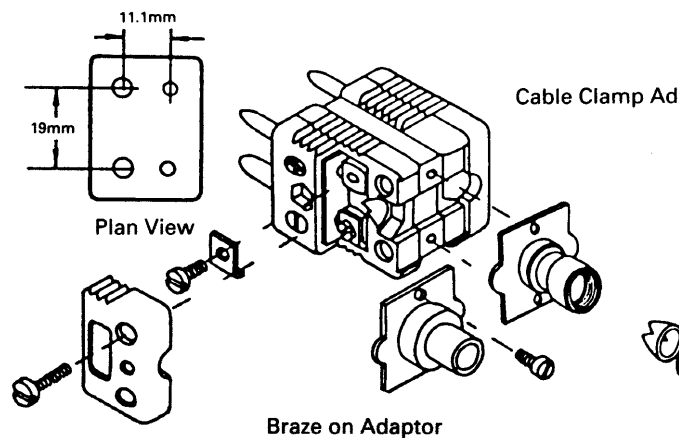
FSTC -- ML
FSTC -- M
FSTC -- F
FSTC -- FF
FSTC -- FFC
*State ISA code letter
K, J, T, S, R, E, N or CU

Panel Mounting Sockets

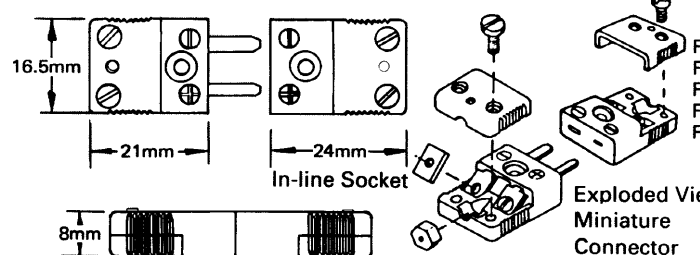
Fascia versions are supplied with push-on nylon spring clips for easy fittings. Terminal cover plates are not available.



Standard Duplex Connector

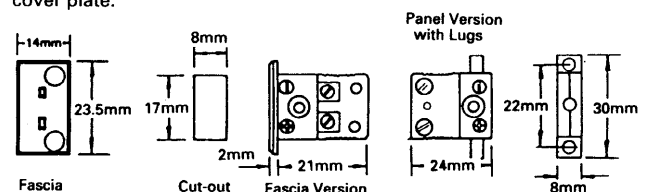


In-line Connectors



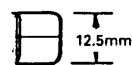
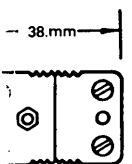
Panel Mounting Miniature Socket

Fascia versions are supplied with push-on nylon spring clips for easy fitting. Fascia versions are supplied without terminal cover plate.

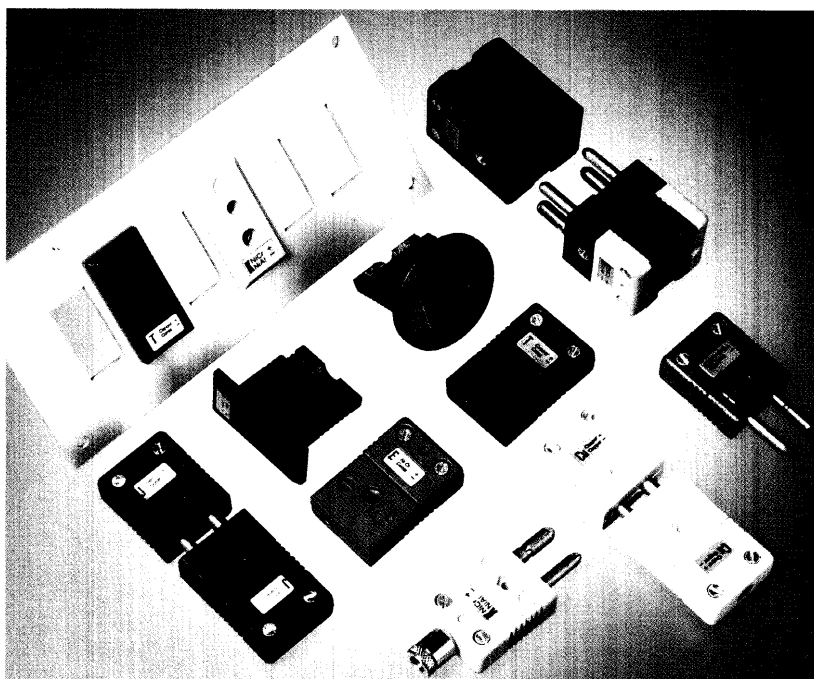
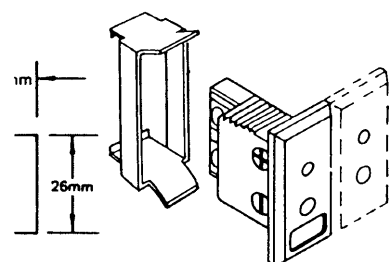


LABFACILITY

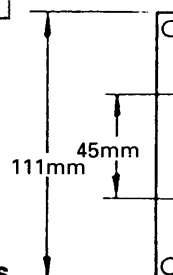
TEMPERATURE CONNECTIONS FOR THERMOCOUPLES AND RESISTANCE THERMOMETERS STANDARD CONNECTORS



- rs
- Light duty plug
 - Heavy duty plug
 - Socket
 - Socket with rectangular fascia
 - Socket with circular fascia

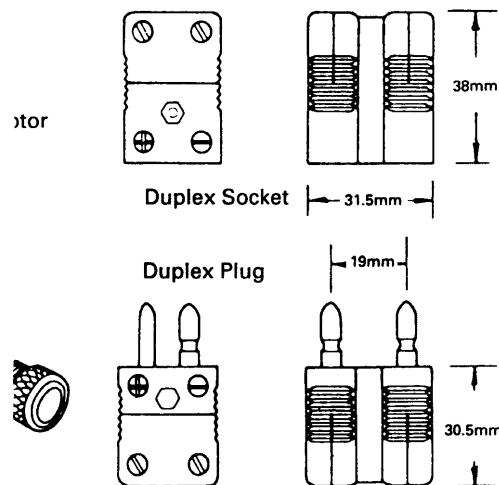


Panels for Standard Connectors



Ordering Codes – Panels for Standard Connectors

FSP – 1	1 way	FSP – 10	10 way
FSP – 2	2 way	FSP – 12	12 way
FSP – 3	3 way	FSP – 16	16 way
FSP – 4	4 way	FSP – 18	18 way
FSP – 5	5 way	FSP – 20	20 way
FSP – 6	6 way	FSP – 24	24 way
FSP – 8	8 way		Up to 12 ways in two rows



Duplex Socket

Duplex Plug



Ordering Codes – Duplex Connectors

FSTC	- *	MD	Duplex plug
H-FSTC	- *	MD	Heavy duty Duplex plug
FSTC	- *	FD	Duplex socket

* State ISA code letter, K, J, T, S, R, E, N or CU

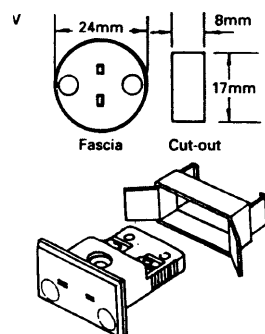
*The Stainless steel adaptors for brazing on to tubing permit the duplex connectors to be mounted directly on to the sensor assembly. Versions are available for 1/8", 3/16" and 1/4" nominal tube diameters or for use with the compression type cable clamp.

Note: Panel mounting (fascia) versions of the duplex socket are not available. The duplex plug will fit directly into two adjacent fascia sockets, or can be used with two single in-line sockets.

Ordering Codes – for Miniature Connectors

ITC	- *	M	Plug
ITC	- *	F	Socket
ITC	- *	FF	Socket with Rectangular Fascia
ITC	- *	FFC	Socket with Circular Fascia
ITC	- *	PF	Socket with Panel Lugs

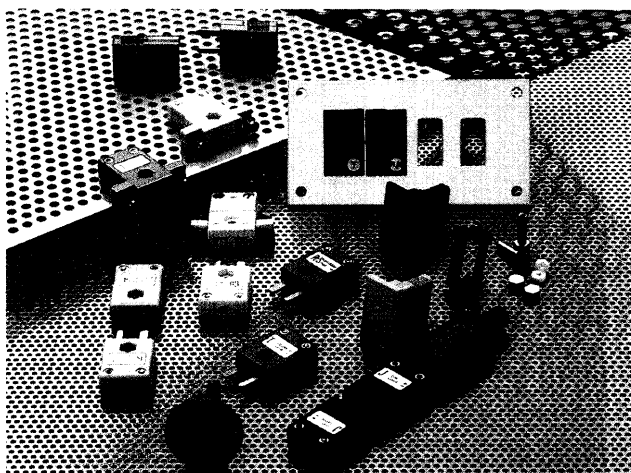
*State ISA code letter K, J, T, S, R, E, N or CU



Fascia

Cut-out

MINIATURE CONNECTORS

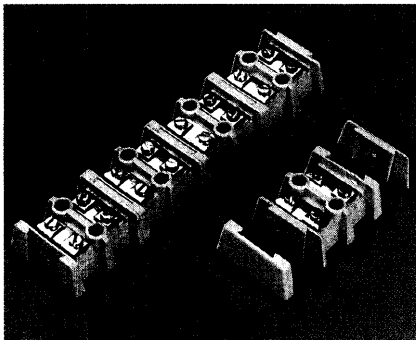


Ordering Codes – Panels for Miniature Connectors

FMP – 1	1 way	FMP – 10	10 way
FMP – 2	2 way	FMP – 12	12 way
FMP – 3	3 way	FMP – 16	16 way
FMP – 4	4 way	FMP – 18	18 way
FMP – 5	5 way	FMP – 20	20 way
FMP – 6	6 way	FMP – 24	24 way
FMP – 8	8 way		Up to 12 ways in a single row. 16 to 24 ways in two rows.

NOTE: Sockets are not included and rectangular fascia versions must be specified. FMP Panels are for use only with FMT-C-FF sockets and **not** the alternative FMT-C-PF type.

LABFACILITY



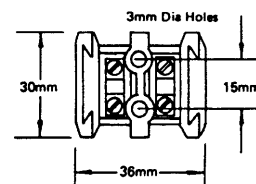
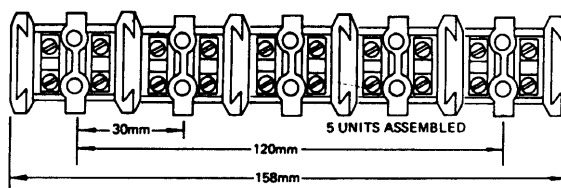
Barrier Terminals

The Barrier Terminals consist of a single pair for the positive and negative legs of the appropriate thermocouple which can be interlocked to produce the required number of channels. The substrate is of polyester material, able to withstand continuous temperatures of up to 220°C. It is also colour coded.

Description	ISA Code	Ordering Code	Strip Colour
Iron/Constantan	J	CAO50 - J ...	Black
Nickel Chromium/Nickel			
Aluminium	K	CAO51 - K ...	Yellow
Copper/Constantan	T	CAO52 - T ...	Blue
Platinum Rhodium/Platinum	R & S	CAO53 - U ...	Green

N = Number of units (pairs)
Overall length = (N x 31mm) + 3mm
Hole centres = (N - 1) x 30mm

↑
Insert required
number of pairs

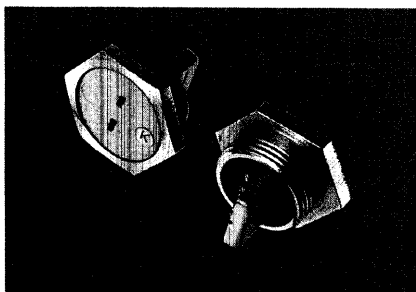
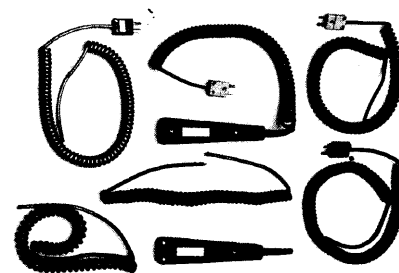


Extension Cables

A range of high quality PVC insulated extension cables is available with a variety of terminations including fitted connectors to suit any requirement.

Moulded Probe Handles

Easy to assemble two part handles allow for low cost hand-held probe assembly. The standard version provides for cable entry and the optional version incorporates a miniature thermocouple socket for use with "plug-in" extension leads.



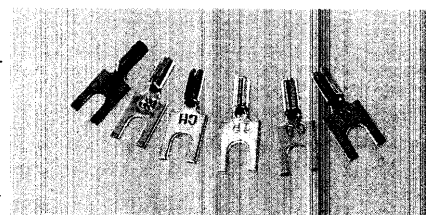
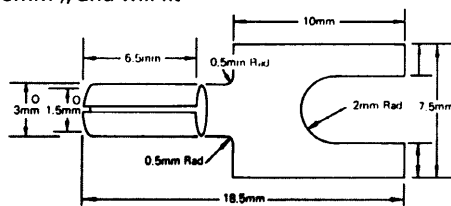
Threaded socket for connecting head

The "threaded socket" using any specified thread screws into the cable spout of any connecting head. A miniature thermocouple socket of the required calibration is incorporated permitting direct connection to the extension lead.

Thermocouple Spade Terminals

The crimp-on spade terminals use compatible thermocouple material, with the identifying code stamped on, and are available in nickel-chromium, nickel-aluminium, iron, constantan, copper and copper-nickel. They will accommodate wire sizes between 0.5 and 1mm diameter (25-19 gauge SWG, area 0.2 to 0.65mm²), and will fit the barrier terminal strips

Terminal Alloy	Ordering Code	Identifying Stamp
+ Nickel Chromium	TST - CH	CH
- Nickel Aluminium	TST - AL	AL
+ Iron	TST - IR	IR
- Constantan	TST - CO	CO
+ Copper	TST - CP	CP
- Copper Nickel (Alloy 11)	TST - 11	11



Note: Copper and Copper Nickel (Alloy 11) are used as compensating materials for platinum. Rhodium/Platinum Types R and S.

Specifications may be subject to change

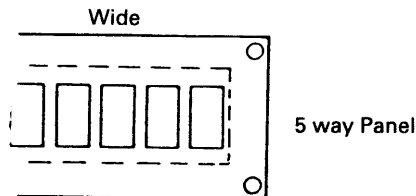
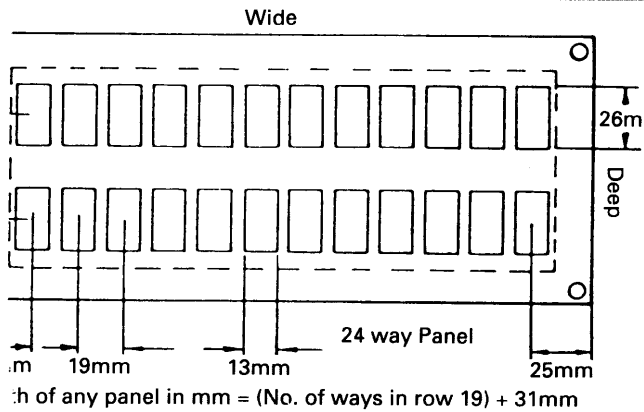
LABFACILITY LIMITED

Tel: 0181 943 5331 Fax: 0181 943 4351

HEADQUARTERS: LABFACILITY LTD, 99 Waldegrave Road, Teddington, Middlesex TW11 8LR, UK. Tel: 0181 943 5331 Telex: 8952151 Intemp G Fax: 0181 943 4351
NORTHERN DIVISION: LABFACILITY LTD, Unit 7 Abbey Way, North Anston Trading Estate, Dinnington, Sheffield S31 7LJ, UK. Tel: 01909 569446 Fax: 01909 550632

DATA CONN 0495





way
way
way
way
way
s in a
6 to 24
rows.

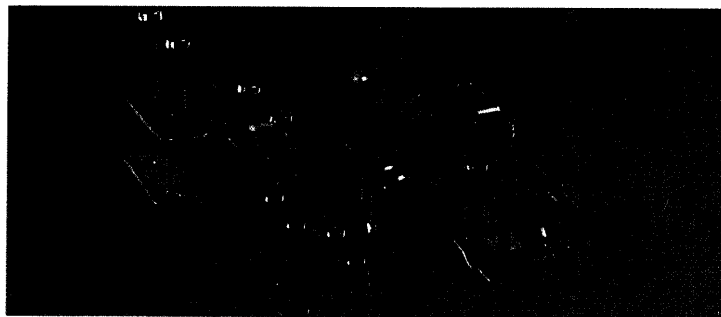
NOTE: Sockets are not included and rectangular fascia versions must be specified.

Thermocouple Connector Accessories

This comprehensive range of accessories allows thermocouple connectors to be used in a wide variety of applications. Made of high quality materials the accessories are designed for long life and ease of use.

External cable clamps

For standard, duplex, miniature and ceramic (high temperature) connectors.



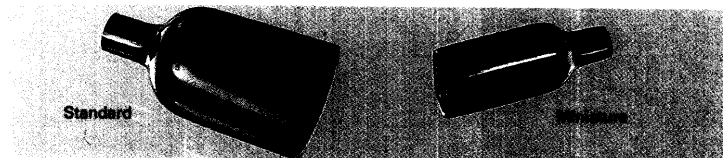
Internal cable clamps

For standard single and duplex connectors.



Rubber "Boots"

For splash protection on standard and miniature plugs and sockets



Strain Relief Washers Panel Mounting Bracket

In silicone rubber for standard and miniature connectors.

For mounting standard and ceramic in-line plugs and sockets on to a panel.

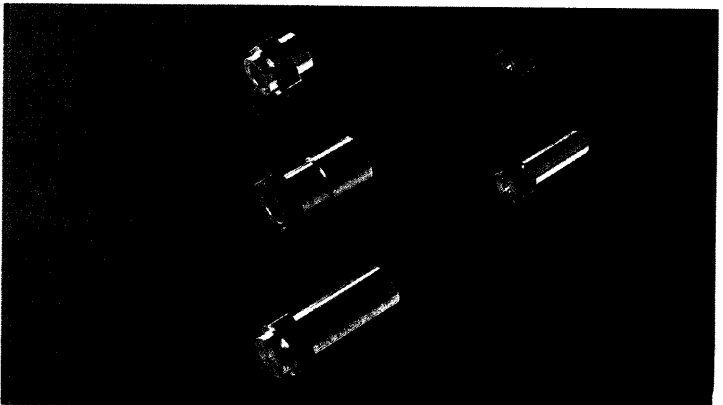


Tube Adaptors

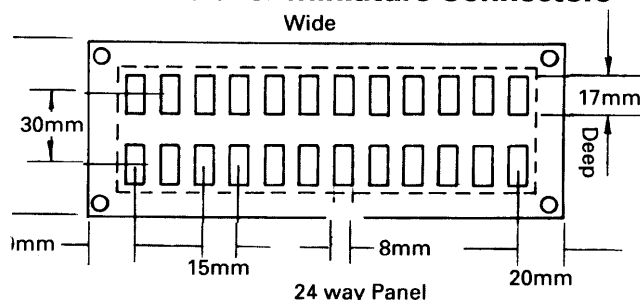
For duplex and ceramic connectors. Available for various tube sizes.



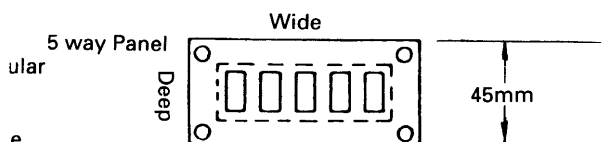
Inserts (Probe supports) for mounting standard and miniature connectors directly on to probes.



Panels for Miniature Connectors

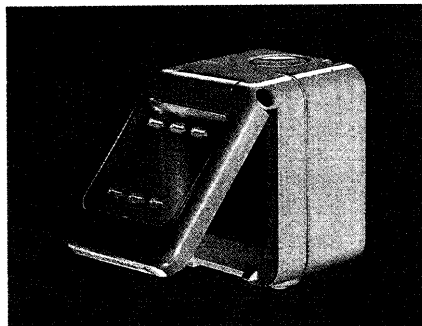


Depth of any panel in mm = (No. of ways in row X 15) + 25mm



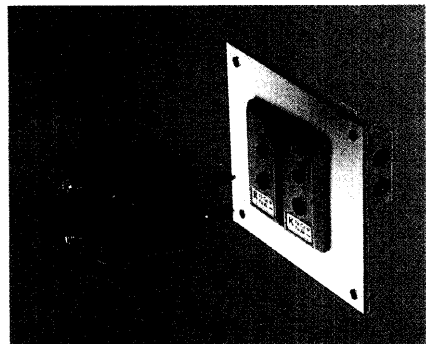
ular
e.

LABFACILITY



Water-Resistant Connector Housing

Rated to IP55, this surface mounting enclosure incorporates a single or dual standard thermocouple socket. When plugs are removed a self-closing door seals the enclosure to prevent the ingress of dust and moisture. Protection is not provided when plugs are inserted.



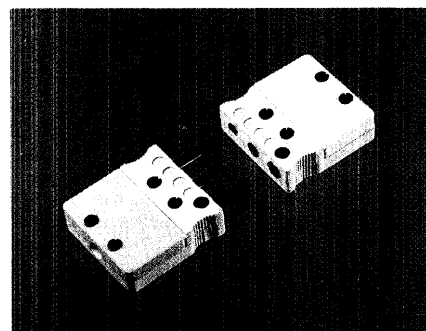
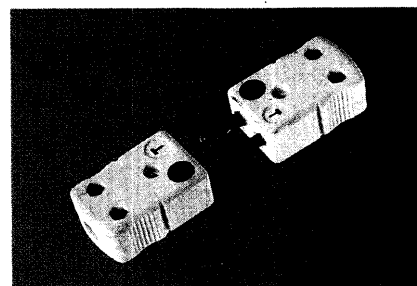
Calibration Interrupt Connector

The "Calibration Interrupt" consists of two thermocouple sockets fitted side-by-side permanently, normally bridged by a "shorted" duplex plug. When access to either instrument or sensor is required for calibration, the plug is removed and no further disconnection is needed – downtime is reduced and maintenance is simplified.

Type HTC Heavy Duty Ceramic Connectors

Heavy duty ceramic bodied connectors for use up to 650°C (type K). Versions are available for thermocouple types J,K,R/S and uncompensated, Cu (copper/copper).

Note:
For Types R and S, compensating alloys limit the maximum usable temperature to 260°C.

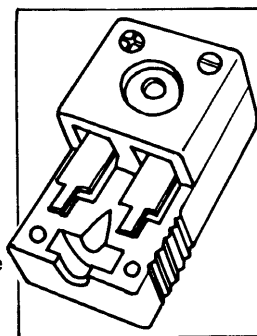


Type 3STC + 3MTC Standard & Miniature 3-Pin Connectors

Three pin connectors for use up to 175°C. Versions are available for thermocouple types J,K,T and R/S and uncompensated, Cu ((copper/copper). The colour coded bodies, in glass-filled nylon are polarity marked.

PCB Mounting Socket

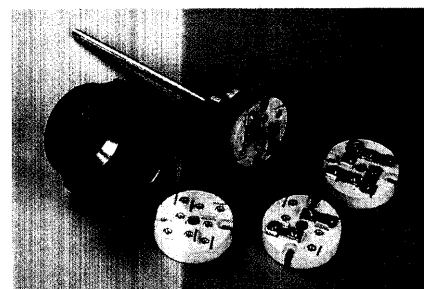
The CPCB miniature socket is designed specially for mounting directly on to printed circuit boards used in temperature instruments. Copper pins are used and provision is made for a CJC Temperature sensor within the moulding.



Connecting Head Terminal Blocks HTO Series

For the first time, connector blocks are available with terminals of thermocouple material, reducing potential junction errors in thermocouple measuring loops. The block is colour coded and is of high temperature polyester suitable for ambient temperatures up to 220°C continuous. Both Din A and Din B size heads can accept the block fixings.

The terminals have clamping plates which facilitate the connection of wires and also ensure that they are sandwiched between compatible materials and thus optimise the system accuracy. When used with resistance thermometers, the terminals are of copper, giving a very low resistance connecting system to minimise errors.



Description	ISA Code
Iron/Constantan	J
Nickel Chromium/Nickel	K
Aluminium	T
Copper/Constantan	R & S
Platinum Rhodium/Platinum	—
Pt100 Platinum Resistance	—

Ordering Code	Block Colour
HTO50 – J	Black
HTO51 – K	Yellow
HTO52 – T	Blue
HTO53 – U	Green
HTO54 – RT	White

